

CLAIMS:

1. An extruded, stamped, pressed, rolled or injection molded gypsum plaster product made from a paste comprising:
 - α gypsum plaster;
 - water in an amount of from 70% to 170% of the stoichiometric amount;
 - a binder; and
 - a clay or another rheology modifier functionally equivalent to a clay,the product being substantially free of macro defects.
2. An extruded, stamped, pressed, rolled or injection molded gypsum plaster product made from a paste comprising:
 - α gypsum plaster;
 - water in an amount of from 70% to 170% of the stoichiometric amount,
 - a binder; and
 - a rheology modifier such that the paste has a yield stress sufficient to make the paste self supporting,the product being substantially free of macro defects.
3. A product according to claim 2 in which the rheology modifier is a clay.
4. A product according to claim 1 in which the rheology modifier is present in the said paste in an amount of up to 20% weight of plaster.
5. A product according to claim 1 in which all the gypsum plaster is α gypsum plaster.

6. A product according to claim 1 in which the water is present in the said paste in an amount of from 13% to 32% by weight of plaster.

7. A product according to claim 1 in which the binder is a cellulosic binder.

8. A product according to claim 1 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

9. A product according to claim 1 in which the binder is present in an amount of at least 0.1% by weight.

10. A product according to claim 1 in which the binder is present in an amount of no more than 10% by weight.

11. The product according to claim 1, further comprising a component selected from the group consisting of setting retarder, lightweight aggregate and fiber.

12. A product according to claim 11 in which the lightweight aggregate is ceramic microspheres or cenospheres.

13. A product according to claim 11 in which the lightweight aggregate is present in an amount of up to 20% by weight.

14. A product according to claim 11 in which the fiber is glass or polypropylene fiber.

15. A product according to claim 11 in which the fiber is present in an amount of up to 10% by weight.

16. The product according to claim 11, in which the water is present in said paste in an amount of from 13% to 32% by weight of α plaster.

17. A method for making a gypsum plaster product according to claim 1 comprising forming a paste by:

mixing α gypsum plaster, water in an amount of from 70% to 170% of the stoichiometric amount and a binder:

mixing into that mixture a clay or other rheology modifier functionally equivalent to a clay;;

working the paste into a plastic condition; and extruding, stamping, pressing or injection molding the paste to form a shaped product.

18. A method for making a gypsum plaster product according to claim 2 comprising forming a paste by:

mixing α gypsum plaster, water in an amount of from 70% to 170% of the stoichiometric amount and a binder;

mixing into that mixture a rheology modifier such that the paste has a yield stress sufficient to make the paste self supporting;

working the paste into a plastic condition; and

extruding, stamping, pressing or injection molding the paste to form a shaped product.

19. A method according to claim 18 in which a clay is mixed into the said mixture as the rheology modifier.

20. A method according to claim 17, further comprising forming a pre-gel/suspension comprising water and binder and adding α gypsum plaster to the pre-gel/suspension.

21. A method according to claim 17 further comprising adding a setting retarder to the composition.

22. A method according to claim 17 carried out at a temperature above 60°C.

23. A method according to claim 17 in which the paste is extruded after working and in which the extruded paste is supported as it leaves the die.

24. A gypsum plaster paste comprising:

α gypsum plaster;

water in an amount of from 70 % to 170 % of the stoichiometric amount;

a binder; and

a rheology modifier such that the paste has a yield stress sufficient to make the paste self supporting,

the product being substantially free of macro defects.

25. A paste according to claim 24 in which the rheology modifier is a clay.

26. A product according to claim 1 in which the binder is present in an amount of at least 1% by weight.

27. A product according to claim 1 in which the binder is present in an amount of no more than 5% by weight.

28. An extruded, stamped, pressed, rolled or injection molded gypsum plaster product made from a paste comprising:

α gypsum plaster;

water in an amount of from 70% to 170% of the stoichiometric amount:

a binder; and

a clay or another rheology modifier functionally equivalent to a clay,

the product being substantially free of macro defects

wherein said paste is made by
mixing α gypsum plaster, water in an amount of from 70% to 170% of the stoichiometric amount and a binder;

mixing into that mixture a rheology modifier such that the paste has a yield stress sufficient to make the paste self supporting;

working the paste into a plastic condition; and

extruding, stamping, pressing or injection molding the paste to form a shaped product.

29. A product according to claim 2 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

30. A product according to claim 3 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

31. A product according to claim 4 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

32. A product according to claim 5 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

33. A product according to claim 6 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

34. A product according to claim 7 in which the binder is at least one of polyvinylalcohol and polyethyleneglycol.

35. A method according to claim 18 in which the paste is extruded after working and in which the extruded paste is supported as it leaves the die.